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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,511	02/07/2006	Soichi Kuwahara	09792909-6161	9094
26263	7590	09/25/2007	EXAMINER	
SONNENSCHEIN NATH & ROSENTHAL LLP			ZIMMERMANN, JOHN P	
P.O. BOX 061080			ART UNIT	PAPER NUMBER
WACKER DRIVE STATION, SEARS TOWER			2861	
CHICAGO, IL 60606-1080				
MAIL DATE		DELIVERY MODE		
09/25/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/531,511	KUWAHARA ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	John P. Zimmermann	2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 10 September 2007.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-17 is/are pending in the application.  
 4a) Of the above claim(s) 2 and 4-17 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1 and 3 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 15 April 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                 | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>15 April 2005</u> | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|                                                                                                                                      | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Election/Restrictions***

1. **Claims 8, 9-14, 15, 16, & 17** are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Groups II - VI, there being no allowable generic or linking claim.
2. Additionally, **Claims 2 & 4-7** are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species I, A, (2), there being no allowable generic or linking claim.
3. Election was made **without** traverse in the reply filed on 10 September 2007.

***Priority***

4. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

***Drawings***

5. Figures 17A & 17B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required

corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Information Disclosure Statement***

6. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

***Specification***

7. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 102***

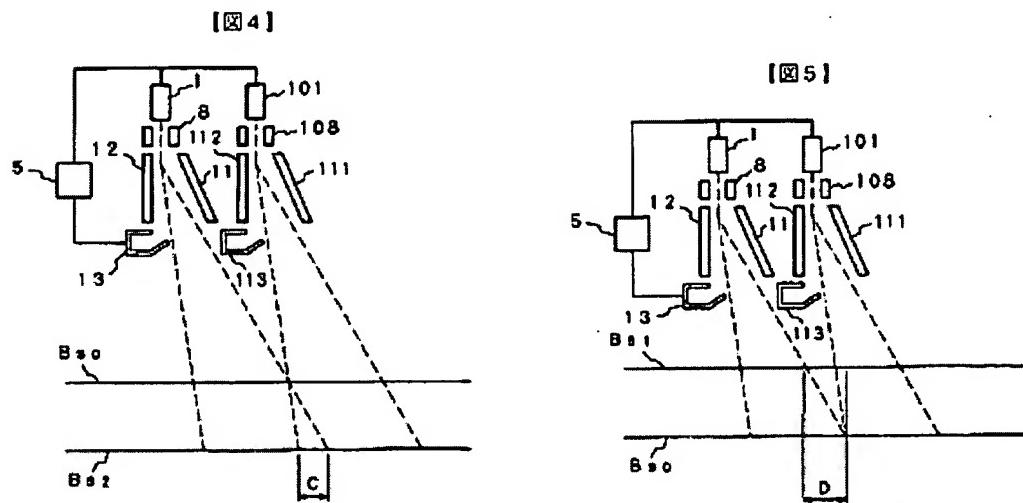
8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. **Claims 1 & 3** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by **Yoshiyama et al., (JP 07-081065 A).**

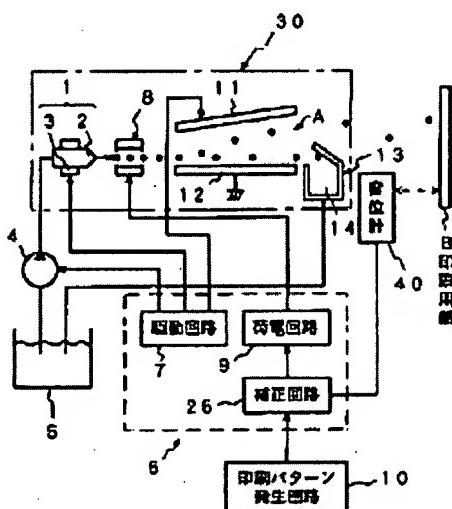
a. As related to independent **claim 1**, Yoshiyama et al. teach a liquid discharge apparatus comprising (Yoshiyama et al. – Abstract): a head in which a plurality of nozzle-incorporated liquid discharge sections are arrayed (Yoshiyama et al. – Abstract; Machine Translation, Detailed Description, Paragraph 40; and Figure 4, Reference #1 & #101, shown below) and a discharge direction deflection means for deflecting the discharge direction of a liquid discharged from a nozzle of each of said liquid discharge sections in the direction of the array of said liquid discharge sections (Yoshiyama et al. – Abstract; Machine Translation, Detailed Description, Paragraph 14; and Figures 4-5, Reference #11, #12, #111, & #112, shown below).



b. Continuing with **claim 1**, Yoshiyama et al. teach a distance detection means for detecting the distance between the liquid discharge surface of said head and the liquid landing surface of a liquid discharge target (Yoshiyama et al. – Abstract; Machine

Translation, Detailed Description, Paragraph 18; and Figure 1, Reference #40, shown below) and a discharge deflection amount determination means for determining the amount of liquid discharge deflection to be provided by said discharge direction deflection means in accordance with the result of detection by said distance detection means (Yoshiyama et al. – Abstract; Machine Translation, Detailed Description, Paragraphs 12 & 20; and Figure 1, Reference #6, #9, #30 & #40, shown below).

【図1】



- c. As related to dependent claim 3, Yoshiyama et al. teach the distance detection means comprises a sensor for reading the information about light, pressure, displacement, or other physical quantity [i.e. light sensing portion]; and wherein said sensor detects the distance between the liquid discharge surface of said head and the liquid landing surface of the liquid discharge target [i.e. print sheet] (Yoshiyama et al. – Abstract; Machine Translation, Detailed Description, Paragraphs 11 & 19; and Figure 1 , Reference #30 & #40, shown above).

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Matsumoto (US 6,543,874 B2) teaches a liquid droplet ejecting apparatus with a print head having a plurality of nozzles and a detection unit for detecting distance or position. Cheng et al. (US 6,557,961 B2) teaches an apparatus and method which detects the distance between the print head and recording medium. Additionally, The International Preliminary Report on Patentability (PCT.IPEA/409) submitted with the application provided pertinent information regarding the foreign documents supplied previously. Finally, the machine language translation of the previously cited JP 08-197738 A teaches in detail, a distance detection apparatus to include a sensor for use in a ink jet recording apparatus to detect the distance from the ink jet nozzle head and the printing surface.

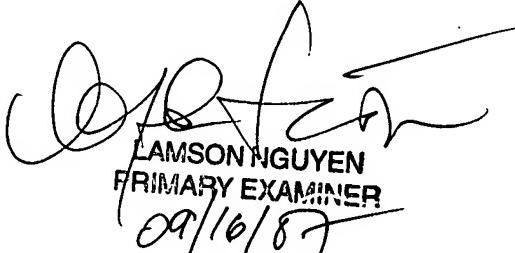
11. ***Examiner's Note:*** Examiner has cited particular Figures & Reference Numbers, Columns, Paragraphs and Line Numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Zimmermann whose telephone number is 571-270-3049. The examiner can normally be reached on Monday - Thursday, 7:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on 571-272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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LAMSON NGUYEN  
PRIMARY EXAMINER  
09/16/87